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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,221	02/22/2002	Wen-Hao Hsu	20128.0015U1	1651
24504	7590	03/03/2005	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			BOA, DIHYE A	
			ART UNIT	PAPER NUMBER
			2654	

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,221

Applicant(s)

HSU, WEN-HAO

Examiner

Dihye Boa

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. The claim is indefinite because of the use of the phrase "the target parameter vector" renders the claim indefinite because it lacks antecedent basis since only "target parameter" was extracted. The examiner has interpreted the extraction to be of a target parameter vector.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1, 2, 4-6, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Patrick *et al.* (U.S. Patent 5,956,463).

6. As per claim 1, Patrick teaches:

- a voice signal (Fig 1, element 10) collection device for receiving the animal voice (col. 2, line 25) and outputting a voice signal;
- a feature extraction module (Fig 3, element 36) for extracting a target parameter vector from the voice signal;
- at least one storage device (col. 3, line 10) for storing a plurality of sample parameter vectors extracted from a plurality of known animal voices and species data corresponding to the sample parameter vectors;
- a comparison module (col.), line 48) for comparing the target parameter with the sample parameter vectors to find a matching sample parameter vector similar to the parameter vector; and
- at least one output device (computer 20, col. 3, line 7) for displaying the species data corresponding to the matching sample parameter vector.

7. As per claim 2, Patrick teaches all the limitations of claim 1. Patrick further teaches a plurality of sample parameter vectors correspond to one of the species data (inherent in classification module, Fig 3, element 40).

8. As per 4, Patrick teaches all the limitations of claim 1. Patrick further teaches a target parameter vector (identify the family, col. 2, line 31) and the matching sample parameter (identify the family, col.2, lines 28-32) vector have a minimum distance therebetween (specified distance, col.7, lines 47-50).

9. As per claim 5, Patrick teaches a method comprising:

- converting an animal voice into a target signal (col.3, lines 4-7);
- extracting a target parameter vector from the target signal (feature extraction module, Fig 3 element 36);
- comparing the target parameter vector with a plurality of sample parameter vectors stored in a parameter database to obtain a matching sample parameter vector with a similar to target parameter vector (identification module, Fig 1, element 14);
- outputting species data corresponding to the matching sample parameter vector stored in the parameter database if the matching sample parameter vector is found (Fig. 4, estimate output by classification and combine modules, elements 50a and 50b and 52).

10. As per claim 6, Patrick teaches all the limitations of claim 5. Patrick further inherently teaches a method comprising:

- converting a known animal voice into a target signal (Fig 2, element 22);
- extracting a sample parameter (Fig 3, element 36) vector from the sample signal;
- storing the sample parameter vector into the parameter database (col.3, line 6);
and
- storing species data corresponding to the sample parameter vector into the parameter database (the acoustic data received, col. 3 lines 4-7);

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11. As per claim 8, Patrick teaches all the limitations of claim 5. Patrick further teaches a method wherein a sample parameter vectors correspond to one of the species data (classify further the NQFDSS into the specie of the animal, col. 8, lines 38-39).

12. As per claim 9, Patrick teaches all the limitations of claim 5. Patrick further teaches a method wherein the matching sample parameter vector and the target parameter has a minimum distance therebetween (implied by sample that is outside the specified distance from all the cluster is termed "unknown", col. 7, line 47-50).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 3 and 7 are rejected under 35 U.S.C 103(a) as being unpatentable over Patrick *et al.* (U.S. Patent 5,956,463).

15. As per 3, Patrick teaches all the limitations of claim 1. Patrick fails to explicitly teach an apparatus wherein the feature extraction module extracts parameter according to rhythm, tune, or timbre of a voice signal. However, Patrick suggest of using acoustical data to analyze calls of all birds (suggested by "calls of all birds", col. 8, line 63).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention to use Patrick's monitoring system to analyze the vocalizations. The suggestion or motivation for doing so is to use this typical characteristic feature to distinguish different type of birds.

16. As per claim 7, Patrick teaches all the limitations of claims 5 and 6. Patrick does not teach sample parameter vectors according to rhythm, tune, or timbre of a voice signal. However, Patrick further suggests the method wherein the steps of extracting the target parameter vector (the segmentation module 34 receives the digitized file 32, col. 5, lines 42-43) and the sample parameter vectors (input points, col. 5, 44) are according the rhythm, tune or time of the target signal and the sample signal respectively (suggested by "calls" of all birds, col. 5, line 47).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention to use Patrick' system to analyze environmental sounds. The suggestion or motivation for doing so is to identify the family, genus, or the species.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Maeda (U.S. Patent 4,752,957) reference teaches an unknown input pattern to be recognized.

The Fujimoto *et al.* (U.S. Patent 5,033,089) reference teaches a voice pattern to be stored in a library for use in identifying an unknown input sound.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner Dihye Boa, whose telephone number is (703) 305-3498. The examiner can normally be reached on Mon-Fri 8:30am-5: 00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Ivars Smits, can be reached on (703) 306-3011. The facsimile phone number for the Technology Center 2600 is (703) 872-9306.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dihye Boa

02/16/2004


RICHMOND DORVIL
SUPERVISORY PATENT EXAMINER